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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
DUONG, FRANK

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 02/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 August 2003*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

    4a) Of the above claim(s) *17-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,8,11-16,29-33,36 and 39-44* is/are rejected.

7)☒ Claim(s) *6,7,9,10,34,35,37 and 38* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is a response to the Election dated 08/14/03. Elected claims 1-16,

29-44 and non-elected claims 17-28 are pending in the application. Thus, Elected

claims 1-16 and 29-44 are prosecuted on the merits and the non-elected claims 17-28

are withdrawn from consideration. In a response to this Office Action, Applicants should

cancel the non-elected claims 17-28 to expedite the prosecution, should the response

place the instant application in condition for allowance.

Information Disclosure Statement

2. The information disclosure statement filed 08/14/2003 complies with the provisions

of 37 CFR 1.97, 1.98 and MPEP § 609. It has been considered and placed in the

application file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 8, 11-16, 29-33, 36 and 39-44 are rejected under 35 U.S.C. 102(b) as

being anticipated by Galand et al (USP 5,568,477) (hereinafter "Galand").

Regarding **claim 1**, in accordance with Galand reference entirety, Galand

discloses a method (Figures 3-4) for segmenting and forwarding packets, comprising:

receiving a packet, wherein the packet includes a destination that determines

forwarding parameters (col. 6, lines 5-10);

as the packet is being received, creating segmentation cells from portions of the

packet received, wherein each segmentation cell is provided to a switching fabric

as the segmentation cell is completed (col. 6, lines 10-20);

when an end portion of the packet is received, verifying that the packet was

received successfully (col. 6, lines 20-21);

when the packet has been received successfully, generating a verification data

set based on segmentation cells utilized to forward the packet, wherein the verification

data set is included in a final segmentation cell that is provided to the switching fabric

(col. 6, lines 21-58); and

when the packet has not been received successfully, generating a purging data

set that is included in the final segmentation cell that is provided to the switching fabric

(col. 6, lines 58-67).

Regarding **claim 2**, in addition to features recited in base claim 1 (see rationales

discussed above), Galand further discloses wherein the packet is received in a first

encapsulation format, wherein at least a portion of the first encapsulation format is

removed from the packet prior to creation of the segmentation cells (col. 5, lines 15-21

and col. 6, lines 1-13).

Regarding **claim 3**, in addition to features recited in base claim 2 (see rationales

discussed above), Galand further discloses wherein a second encapsulation format is

added to the packet as the segmentation cells are created, wherein the second

encapsulation format adapts the packet for transmission through the switching fabric (col. 6, lines 15-28).

Regarding **claim 4**, in addition to features recited in base claim 1 (see rationales discussed above), Galand further discloses wherein creating segmentation cells further comprises:

when a sufficient portion of the packet has been received to create a segmentation cell, creating the segmentation cell and providing the segmentation cell to the switching fabric (col. 6, lines 19-20);

storing any residual portion of the packet not included in the segmentation cell in a buffer (inherent; Figure 4; element 41-42 and col. 4, lines 13-16 and col. 6, lines 21-23);

combining the residual portion of the packet with subsequently received packet portions to create a subsequent segmentation cell, wherein any new residual portion of the packet resulting from creation of the subsequent segmentation cell is stored in the buffer (col. 6, lines 24-28).

Regarding **claim 5**, in addition to features recited in base claim 4 (see rationales discussed above), Galand further discloses wherein, for a first segmentation cell, determining that a sufficient portion of the packet has been received for the first segmentation cell further comprises determining that enough of the packet has been received to determine a route for segmentation cells of the packet through the switching fabric and determining that enough of the packet has been received to fill available payload space within the first segmentation cell (col. 6, lines 24-28).

Regarding **claim 8**, in addition to features recited in base claim 1 (see rationales discussed above), Galand further discloses wherein verifying that the packet was received successfully further comprises verifying at least one of: a received length parameter associated with the packet, and a received cyclical redundancy check parameter associated with the packet (col. 6, lines 23-28 and lines 60-67).

Regarding **claim 11**, in addition to features recited in base claim 1 (see rationales discussed above), Galand further discloses wherein receiving the packet further comprises receiving the packet as a plurality of ATM cells (col. 4, line 47 and col. 6, lines 36-37 and thereinafter).

Regarding **claim 12**, in addition to features recited in base claim 11 (see rationales discussed above), Galand further discloses wherein receiving the packet as a plurality of ATM cells further comprises receiving the packet as a plurality of ATM cells over a plurality of virtual connections (col. 4, lines 18-20 and col. 5, line 35 and thereinafter).

Regarding **claim 13**, in addition to features recited in base claim 1 (see rationales discussed above), Galand further discloses wherein receiving the packet further comprises receiving the packet in a packet over SONET format (VL packet or see Figure 2 and col. 2, lines 60-67).

Regarding **claim 14**, in addition to features recited in base claim 1 (see rationales discussed above), Galand further discloses wherein receiving the packet further comprises receiving the packet in a Frame Relay format (VL packet or see Figure 2 and col. 2, lines 60-67).

Regarding **claim 15**, in addition to features recited in base claim 1 (see

rationales discussed above), Galand further discloses wherein creating segmentation

cells further comprises creating fixed-length segmentation cells (ATM cells), wherein the

switching fabric is a backplane of a fixed-transfer-length switch (Figure 4; element 44),

wherein the backplane intercouples a plurality of fixed-transfer-length line cards (Figure

4; elements 45), wherein the fixed-length segmentation cells facilitate forwarding

packets amongst the plurality of fixed-transfer length line cards (col. 6, lines 37-67).

Regarding **claim 16**, in addition to features recited in base claim 1 (see

rationales discussed above), Galand further discloses wherein creating segmentation

cells further comprises creating ATM segmentation cells, wherein the switching fabric is

a backplane (44) of an ATM switch (45), wherein the backplane intercouples a plurality

of ATM line cards (45), wherein the ATM segmentation cells facilitate forwarding

packets amongst the plurality of ATM line cards (45) (col. 6, lines 37-67).

Regarding **claim 29**, in accordance with Galand reference entirety, Galand

discloses a segmentation processor (Figure 4) for forwarding a packet that is received,

wherein the packet includes a destination that determines forwarding parameters,

comprising:

a processing module (42); and

memory (41-43 or 45-46) operably coupled to the processing module (42),

wherein the memory stores operating instructions that, when executed by the

processing module, cause the processing module to perform the functions of:

as the packet is being received, creating segmentation cells from portions

of the packet received, wherein each segmentation cell is provided to a switching

fabric as the segmentation cell is completed (col. 6, lines 5-20);

when an end portion of the packet is received, verifying that the packet

was received successfully (col. 6, lines 20-21);

when the packet has been received successfully, generating a verification

data set based on segmentation cells utilized to forward the packet, wherein the

verification data set is included in a final segmentation cell that is provided to the

switching fabric (col. 6, lines 21-58); and

when the packet has not been received successfully, generating a purging

data set that is included in the final segmentation cell that is provided to the

switching fabric (col. 6, lines 58-67).

Regarding **claim 30**, in addition to features recited in base claim 29 (see

rationales discussed above), Galand further discloses wherein the packet is received in

a first encapsulation format, wherein the memory includes operating instructions that,

when executed by the processing module, cause the processing module to remove at

least a portion of the first encapsulation format from the packet prior to creation of the

segmentation cells (col. 6, lines 1-13).

Regarding **claim 31**, in addition to features recited in base claim 30 (see

rationales discussed above), Galand further wherein the memory includes operating

instructions that, when executed by the processing module, cause the processing

module to add a second encapsulation format to the packet as the segmentation cells

are created, wherein the second encapsulation format adapts the packet for transmission through the switching fabric (col. 6, lines 14-28).

Regarding **claim 32**, in addition to features recited in base claim 29 (see rationales discussed above), Galand further wherein the memory includes operating instructions that, when executed by the processing module, cause the processing module to perform the function of creating segmentation cells such that creating segmentation cells further comprises: when a sufficient portion of the packet has been received to create a segmentation cell, creating the segmentation cell and providing the segmentation cell to the switching fabric (col. 6, lines 19-20);

storing any residual portion of the packet not included in the segmentation cell in a buffer inherent; Figure 4; element 41-42 and col. 4, lines 13-16 and col. 6, lines 21-23);

combining the residual portion of the packet with subsequently received packet portions to create a subsequent segmentation cell, wherein any new residual portion of the packet resulting from creation of the subsequent segmentation cell is stored in the buffer (col. 6, lines 24-28).

Regarding **claim 33**, in addition to features recited in base claim 32 (see rationales discussed above), Galand further discloses wherein the memory includes operating instructions that, when executed by the processing module, cause the processing module to perform the function of creating segmentation cells such that, for a first segmentation cell, determining that a sufficient portion of the packet has been received for the first segmentation cell further comprises determining that enough of the

packet has been received to determine a route for segmentation cells of the packet

through the switching fabric and determining that enough of the packet has been

received to fill available payload space within the first segmentation cell (col. 6, lines 14-

28).

Regarding **claim 36**, in addition to features recited in base claim 29 (see

rationales discussed above), Galand further discloses wherein the memory includes

operating instructions that, when executed by the processing module, cause the

processing module to perform the function of verifying that the packet was received

successfully such that verifying further comprises verifying at least one of: a received

length parameter associated with the packet (col. 6, lines 25-26), and a received cyclical

redundancy check parameter associated with the packet (col. 6, lines 60-67).

Regarding **claim 39**, in addition to features recited in base claim 29 (see

rationales discussed above), Galand further discloses wherein the packet is received as

a plurality of ATM cells (col. 36, lines 36-37 and thereinafter).

Regarding **claim 40**, in addition to features recited in base claim 39 (see

rationales discussed above), Galand further discloses wherein the packet is received as

a plurality of ATM cells over a plurality of virtual connections.

Regarding **claim 41**, in addition to features recited in base claim 29 (see

rationales discussed above), Galand further discloses wherein the packet is received in

a packet over SONET format (VL packet or see Figure 2 and col. 2, lines 60-67).

Regarding **claim 42**, in addition to features recited in base claim 29 (see

rationales discussed above), Galand further discloses wherein the packet is received in

a Frame Relay format (VL packet or see Figure 2 and col. 2, lines 60-67).

Regarding **claim 43**, in addition to features recited in base claim 29 (see

rationales discussed above), Galand further discloses wherein the memory includes

operating instructions that, when executed by the processing module, cause the

processing module to perform the function of creating segmentation cells such that

creating segmentation cells further comprises creating fixed-length segmentation cells,

wherein the switching fabric is a backplane of a fixed-transfer-length switch (Figure 4;

element 44), wherein the backplane intercouples a plurality of fixed-transfer-length line

cards (Figure 4; elements 45), wherein the fixed-length segmentation cells facilitate

forwarding packets amongst the plurality of fixed-transfer-length line cards (col. 6, lines

37-67).

Regarding **claim 44**, in addition to features recited in base claim 29 (see

rationales discussed above), Galand further discloses wherein the memory includes

operating instructions that, when executed by the processing module, cause the

processing module to perform the function of creating segmentation cells such that

creating segmentation cells further comprises creating ATM segmentation cells, wherein

the switching fabric is a backplane of an ATM switch (44), wherein the backplane

intercouples a plurality of ATM line cards (45), wherein the ATM segmentation cells

facilitate forwarding packets amongst the plurality of ATM line cards (45) (col. 6, lines

37-67).

Allowable Subject Matter

4. Claims 6-7, 9-10, 34-35 and 37-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record, considered individually or in combination, fails to fairly show or suggest the claimed invention of base claims 1 and 29 and further limit with novel limitations of using a context table and buffer count to store an overflow portion of a packet, functionally and structurally interconnected with other limitations in the independent claims 6-7 and 34-35.

The prior art of record, considered individually or in combination, fails to fairly show or suggest the claimed invention of base claims 1 and 29 and further limit with novel limitations of generating the verification data set comprises the novel steps structurally and functionally interconnected with other limitations in a manner as recited in the dependent claims 9-10 and 37-38.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Marshall et al (USP 5,420,858).

Gun et al (USP 5,777,984).

Burwell et al (USP 5,818,842).

Vogel (USP 6,075,788).

Joffe et al (USP 6,307,860).

O'Neill et al (USP 6,243,382).

Opalka et al (USP 6,259,699).

Hebb et al (USP 6,463,067).

Murakami et al, RFC 2171, MAPOS-Multiple Access Protocol over SONET/SDH

version 1, pages 1-9, June 1997.

7. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Frank Duong whose telephone number is (703) 308-

5428. The examiner can normally be reached on 7:00AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Seema Rao can be reached on (703) 308-5463. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Frank Duong
Examiner
Art Unit 2666

January 29, 2004